UNITED STATES PATENT AND TRADEMARK OFFICE

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09/955,292	09/19/2001	Yoshikatsu Kamisuwa	016907/1297	8174

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EXAMINER
HUNTSINGER, PETER K

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		09/955,292	KAMISUWA, YOSHIKATSU
		Examiner	Art Unit	
		Peter K. Huntsinger	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-21_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-21_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _28 December 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-11 and 13-21 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Itoyama et al. U.S. Patent 6,488,353 and Ohta U.S. Patent

6,897,978.

Referring to claim 1, Itoyama et al. disclose an image analyzing device

comprising: storage section (col. 8, lines 47-49) which stores image data obtained by

processing reference chart data including a pattern for sampling each of characteristic

quantities indicating characteristics of a defective image (test pattern image data ROM

of Fig. 1, col. 3, lines 46-56), by using a device targeted for checking (S3 of Fig. 9, col.

6, lines 36-37); a characteristic quantity sampling section which samples a characteristic

quantity of a pattern expressed in the image data stored in the storage section (image

processing unit 12 of Fig. 1, col. 3, lines 43-44); a correlation table which associates

each label for classifying defective image with at least one of the characteristic

quantities corresponding to the label (predetermined threshold, col. 6, lines 43-53); and

a label specifying section which specifies the label for a pattern in which the

characteristic quantity is sampled by the characteristic quantity sampling section from

among the pattern expressed in the image data by referring to the correlation table

(image processing unit 12 of Fig. 1, col. 3, lines 43-44). While Itoyama et al. do not

disclose expressly the predetermined threshold as a correlation table, it would be

obvious for the threshold to be stored as a table. The motivation for doing so would

have been to express data in an organized form, such as an array, which is commonly

used in computer programming. Itoyama et al. does not disclose expressly utilizing a

plurality of patterns on the test sheet. Ohta discloses a plurality of patterns on a printed

test sheet (col. 9, lines 50-52). Itoyama et al. and Ohta are combinable because they

are from the same field of printing and scanning a test page to determine defects. At

the time of the invention, it would have been obvious to print a plurality of patterns on

the test sheet and sample each pattern. The motivation for doing so would have been

to measure different print characteristics on the test sheet to determine a greater

amount of defects. Therefore, it would have been obvious to combine Ohta with

Itoyama et al. to obtain the invention as specified in claim 1.

Referring to claim 2, Itoyama et al. disclose an image analyzing device according

to claim 1, wherein the reference chart data is a print image (col. 3, lines 46-56), and the

image data is electronic data obtained by reading the print image by an image scanner

targeted for checking (col. 6, lines 36-37).

Referring to claim 3, Itoyama et al. disclose an image analyzing device according

to claim 1, wherein the reference chart data is electronic data (col. 3, lines 46-56), and

the image data is electronic data obtained by further reading an image printed by a

printer targeted for checking by using the electronic data, by an image scanner (col. 6,

lines 36-37).

Referring to claim 4,Ohta discloses an image analyzing device according to claim

1, wherein the characteristic quantity sampling section applies mutually different

processing to the mutually different patterns in order to sample mutually different

characteristic quantities (col. 5, lines 1-16).

Referring to claim 5 Ohta discloses an image analyzing device according to claim

1, wherein, with respect to the reference chart data, a plurality of known image patterns

are disposed in a mesh manner, and the characteristic quantity sampling section uses

processing suitable to sample characteristic quantities for each mesh (col. 9, lines 50-

52).

Referring to claim 6, Ohta discloses an image analyzing device according to

claim 1, further comprising: a list storage section which stores a reference chart

characteristic list having recorded therein characteristics including respective pattern

configurations of mutually different reference chart data (Fig. 13, col. 10, lines 33-49);

and a selecting section which selects optimal reference chart data from the list storage

section according to the characteristic quantity sampled by the characteristic quantity

sampling section Fig. 13, col. 10, lines 33-49). The user interface, which includes a

drop down menu of selectable pattern configurations, is considered a list because it

contains an ordered collection.

Referring to claim 7, Ohta discloses an image analyzing device according to claim 1, wherein the image analyzing device is provided in a personal computer (col. 4, lines 56-61).

Referring to claim 8, Itoyama et al. disclose an image analyzing device according to claim 1, further comprising: an image scanner which reads a document image and provides image data corresponding to the document image, wherein the storage section stores read data obtained by reading an arbitrary sample using an image scanner (scanner 1 of Fig. 1, col. 6, lines 36-37). Itoyama et al. does not disclose expressly a reference chart characteristic list. Ohta discloses a list storage section which stores a reference chart characteristic list having recorded therein characteristics (printer output signal value, col. 7, lines 45-64) including respective pattern configurations of mutually different reference chart data (density patches, col. 7, lines 8-12); and a pattern analyzing section which analyzes characteristics including a pattern configuration (density patches, col. 7, lines 8-12) of the read data stored by the storage section and adds characteristics including the analyzed pattern configuration to the reference chart characteristic list (Fig. 4, col. 7, lines 21-26); and wherein the arbitrary image sample and the read data are used as new reference chart data (Fig. 4, col. 7, lines 21-26). While Ohta does not disclose expressly a storage section for the chart of Fig. 4, it is inherent that the chart must be stored on a memory for processing. It would have been obvious to store the chart of Fig. 4 as a list because a list is simply a generic form of organizing data. When charting data, listing the x and y coordinates occurs before making a graph. Itoyama et al. and Ohta are combinable because they are from the

same field of printing and scanning a test page to determine defects. At the time of the

invention, it would have been obvious to chart the ideal and measured density values of

the test page. The motivation for doing so would have been to improve the quality of

the printer by eliminating the offset of the printed density values. Therefore, it would

have been obvious to combine Ohta with Itoyama et al. to obtain the invention as

specified in claim 8.

Referring to claim 9, Itoyama et al. disclose an image checking system

comprising: image analyzing section which analyzes the presence or absence of a

defective image from image data obtained by making an electronic data of printed

image outputted from a device targeted for checking, and makes classification for each

phenomenon which appears on the defective image (image processing unit 12 of Fig. 1,

col. 6, lines 46-56); a cause estimating section which narrows a candidate of causes of

a defect according to the phenomenon analyzed by the image analyzing section and

other information (S5 of Fig. 9, col. 6, lines 53-55); and a display section which displays

the phenomenon classified by the image analyzing section and the causes of the defect

estimated by the cause estimating section (display unit 10 of Fig. 1, col. 6, lines 55-60).

Referring to claim 10, Itoyama et al. disclose An image checking system

according to claim 9, wherein the image analyzing section comprises: storage section

(col. 8, lines 47-49) for storing image data obtained by processing reference chart data

including a pattern for sampling each of characteristic quantities indicating

characteristics of a defective image (test pattern image data ROM of Fig. 1, col. 3, lines

46-56), by using a device targeted for checking (S3 of Fig. 9, col. 6, lines 36-37); a

characteristic quantity sampling section which samples a characteristic quantity of a

pattern expressed in the image data stored in the storage section (image processing

unit 12 of Fig. 1, col. 3, lines 43-44); a correlation table which associates each label for

classifying defective image with at least one of the characteristic quantities

corresponding to the label (predetermined threshold, col. 6, lines 43-53); and a label

specifying section which specifies the label for a pattern in which the characteristic

quantity is sampled by the characteristic quantity sampling section from among the

pattern expressed in the image data by referring to the correlation table (image

processing unit 12 of Fig. 1, col. 3, lines 43-44). While Itoyama et al. do not disclose

expressly the predetermined threshold as a correlation table, it would be obvious for the

threshold to be stored as a table. The motivation for doing so would have been to

express data in an organized form, such as an array, which is commonly used in

computer programming.   Ohta discloses a plurality of patterns on a printed test sheet

(col. 9, lines 50-52).

Referring to claim 11, Itoyama et al. disclose an image checking system

according to claim 9, wherein the other information is an internal parameter of a device

targeted for checking (col. 10, lines 47-57).

Referring to claim 13, Itoyama et al. disclose an image checking system

according to claim 9, wherein the other information is input information from an operator

(col. 9, lines 56-59). Itoyama further teaches that the user determines whether the

defect is caused by a needing to clean the print heads (col. 10, lines14-18).

Referring to claim 14, Itoyama et al. disclose an image checking system according to claim 9, wherein the other information is information on past checking results (Fig. 13, col. 7, lines 47-55).

Referring to claim 15, Itoyama et al. disclose an image checking system according to claim 9, further comprising a communication section which transmits to the outside the phenomenon classified by the image analyzing section and the causes of defect estimated by the cause estimating section (display unit 10 of Fig. 1, col. 6, lines 55-60).

Referring to claim 16, Itoyama et al. disclose an image checking system according to claim 9, further comprising: a scanner section which reads a document image and provides document image data corresponding to the document image (scanner 1 of Fig. 1, col. 6, lines 36-37); and a printer section which forms an image corresponding to the image data provided from the image scanner (col. 6, lines 28-32), wherein the image data is the document image data provided from the scanner section (test pattern, col. 3, lines 45-56).

Referring to claim 17, Itoyama et al. disclose an image checking system according to claim 9, further comprising: a scanner section which reads a document image and provides document image data corresponding to the document image (scanner 1 of Fig. 1, col. 6, lines 36-37); and a printer section which forms an image corresponding to the image data provided from the image scanner (col. 6, lines 28-32), wherein the image data is document image data obtained by further reading the image

formed by the printer section based on known reference data produced as electronic

data, by use of the scanner section (S3 of Fig. 9, col. 6, lines 36-37).

Referring to claim 18, Ohta discloses an image checking system according to

claim 9, wherein the image checking system is provided in a personal computer (col. 4,

lines 56-61).

Referring to claim 19, Ohta discloses an image checking system according to

claim 9, wherein the image checking system is provided in a network controller

connected to the device targeted for checking via network (col. 4, lines 56-61). While

Ohta does not disclose expressly a computer within a network, Official Notice is taken

that it would have been obvious to connect a computer to a network. The motivation for

doing so would have been to connect a computer to other computer and devices for

transmitting data. A computer system is capable of monitoring and controlling a

network, and is therefore capable of acting as a network controller.

Referring to claim 20, Ohta discloses an image checking system according to

claim 9, wherein the image analyzing section is provided in a network controller

connected to the device targeted for checking via network, and the cause estimating

section is provided in a computer system connected to the network controller via

communication network (col. 4, lines 56-61). While Ohta does not disclose expressly a

computer within a network, Official Notice is taken that it would have been obvious to

connect a computer to a network. The motivation for doing so would have been to

connect a computer to other computer and devices for transmitting data. A computer

system is capable of monitoring and controlling a network, and is therefore capable of

acting as a network controller.

Referring to claim 21, Ohta discloses An image checking system according to

claim 9, wherein the image checking system is provided in a personal computer

connected to the device targeted for checking via LAN (col. 4, lines 56-61). Official

Notice is taken that it would have been obvious to connect a computer to a scanner via

a LAN. The motivation for doing so would have been to allow the device to be usable

by a network of computers.

3.   Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itoyama

et al. U.S. Patent 6,488,353 and Ohta U.S. Patent 6,897,978 as applied to claim 9

above, and further in view of Allen et al. Publication US 2002/0180996.

Referring to claim ..., Itoyama discloses the cause estimating system but does not

disclose expressly narrowing the cause of a defect according to the output of an internal

sensor. Allen et al. disclose determining a defect based on an output value of a sensor

(page 3, paragraph 32). Itoyama et al. and Allen et al. are combinable because they

are from the same field of printing and scanning a test page. At the time of the

invention, it would have been obvious to utilize a sensor in narrowing the cause of a

defect. The motivation for doing so would have been to improve the accuracy of

detecting a defect by determining the possible conditions that cause a certain defect.

Therefore, it would have been obvious to combine Allen et al. with Itoyama et al. to

obtain the invention as specified in claim 12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter K. Huntsinger whose telephone number is (571)272-7435. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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